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09/234,522 01/19/99 SMITH, L 1048

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER
1644

ART UNIT	PAPER NUMBER
	9

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/232,522	Gately et al.
Examiner	**Group Art Unit**
Marianne DiBrino	1644

☒ Responsive to communication(s) filed on *Dec 17, 1999*

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-36* is/are pending in the applicat

Of the above, claim(s) *34-36* is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-5, 14-20, and 29* is/are rejected.

☒ Claim(s) *6-13, 21-28, and 30-33* is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). ~~8~~ filed 5/3/99 & 12/17/99

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

1. The Art Unit location and the examiner of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1644.

2. Applicant's amendment, filed 12/17/99 (Paper No. 7), is acknowledged and has been entered.

Claims are 1-36 are pending.

3. Applicant's election of the Invention of Group I (claims 1-33) and species of hybridoma HB-12447 with traverse in Paper No. 7 is acknowledged. The traversal is for the reasons of record in Paper No. 7. Applicant's comments were considered, but were not deemed persuasive. The Inventions of Groups I, II and III are restricted because they are each distinct from the other: Inventions I is drawn to a product, whereas, Inventions II and III are drawn to methods, and Inventions II and III are different methods. The Inventions have a separate status in the art as is evidenced by their separate classifications. In addition, since no art was found the search in the last Office Action encompassed all four species, i.e., claims 1-33 were examined in the previous Office Action.

Claims 6, 7, 10-13, 21, 22, 25-28, 30 and 32-36 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention, the requirement having been traversed in Paper No. 7. However, claims 6, 7, 10-13, 21, 22, 25-28, 30 and 32 are now being examined because the elected species was found to be free of the prior art.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 1-33 are being acted upon.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for

patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5 and 29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Presky et al (Applicant's IDS (filed 5/3/99) reference "C15") as evidenced by Gately (U.S. Patent No. 5,780,597) for the reasons of record in Paper No. 3, mailed 6/17/99.

Applicant's arguments were considered, but were not deemed persuasive.

Presky et al teach antibodies, both polyclonal and monoclonal, to the human IL-12p75 heterodimer which consists of a p35 subunit and a p40 subunit wherein said antibodies bind to p75 and p35, but not to p40 (especially column 6, lines 6-10, column 42, lines 24-32, 44-46 and 50-58, column 44, lines 42-50). Presky et al also teach that antibodies to IL-12 may be humanized and used as therapeutic drugs (especially column 4, lines 9-13). The recitation of a method wherein the claimed antibody is made carries no patentable weight in these product claims. With regard to Applicant's comments on superior neutralizing ability of the claimed antibody, the claims do not recite that the antibody is neutralizing, therefore, applicant's arguments are drawn to limitations currently not recited in the claims under consideration. The claims under consideration encompass antibodies that do not possess neutralizing activity. With regard to Applicant's comments on lack of cross-reactivity of the 20C2 (Presky et al) antibody with rhesus monkey IL-12, Figure 4 in the instant application clearly indicates that 20C2 does exhibit cross-reactivity with rhesus monkey IL-12 at higher concentrations.

The reference teachings anticipate the claimed invention.

7. Claims 1-4 and 29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Cytokine Bulletin for the reasons of record in Paper No. 3, mailed 6/17/99.

Applicant's arguments were considered, but were not deemed persuasive.

Examiner's comments as applied supra in #5 to Applicant's arguments on attributes conferred onto the claimed antibody apply. Regarding limitation "cross reacts with rhesus monkey IL-12" of instant claim 4, it would be an inherent property of the anti-human IL-12 antibodies that they would exhibit some degree of cross-reactivity with rhesus monkey IL-12. In fact, Carter et al (Applicant's IDS (filed 12/17/99) reference "C16", also teaches cross reactivity of antibodies to IL-12 with mouse and human IL-12 (about 60%, especially page 367, second column, lines 6-8), which has a much lower degree of homology to human IL-12 than rhesus monkey IL-12 has to human IL-12.

8. Claims 14-17 and 19 stand rejected under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Cytokine Bulletin for the reasons of record in Paper No. 3, mailed 6/17/99.

Applicant's arguments were considered, but were not deemed persuasive.

Examiner's comments as applied supra in #5 to Applicant's arguments on attributes conferred onto the claimed antibody apply. Regarding Applicant's comments that Cytokine Bulletin allegedly does not teach that the antibody substantially neutralizes IL-12, said reference teaches neutralization of 3-5 ng/ml concentrations of IL-12 (especially page 2). Applicant's comments on the IL-12 antibody taught by Cytokine Bulletin being immobilized and nothing taught suggests that immobilized antibody would exhibit bioactivity is a mischaracterization. The Cytokine Bulletin teaches measuring IL-12 bioactivity with PHA-activated lymphoblasts, i.e., that bioactive IL-12 in media conditioned by IFN-gamma + LPS or IFN-gamma + SAC could be neutralized by anti-IL-12 neutralizing antibody (especially page 2).

9. Claims 5, 18 and 20 stand rejected under 35 U.S.C. 103(a) as being anticipated by Cytokine Bulletin for the reasons of record in Paper No. 3, mailed 6/17/99.

Applicant's arguments were considered, but were not deemed persuasive.

Cytokine Bulletin teaches an antibody that exhibits bioactivity (neutralizes IL-12) and binds to heterodimeric IL-12 but has no reactivity with the p40 subunit (especially page 2). Applicant's comments that conventional techniques are not capable of producing the antibody with the attributes of bioactivity and non-reactivity with the p40 subunit are obviated by the aforementioned teachings of Cytokine Bulletin. In fact, Carter et al (Applicant's IDS (filed 12/17/99) reference "C16", also teaches antibodies that react with the p35 subunit and not the p40 subunit have been obtained. Carter et al go on to teach that the relative lack of production of p35 subunit antibodies over p40 subunit antibodies in their study and in other studies may be artefactually due to a bias introduced into antibody production and selection by failure to purify the IL-12 heterodimer away from free excess p40 in the preparations used for the immunization and screening procedures (especially page 367, last paragraph).

10. Claims 1-4 and 29 are rejected under 35 U.S.C. 102(e) as anticipated by Trinchieri et al (U.S. Patent No. 5,811,523, Applicant's IDS (filed 12/17/99) reference "A2") as evidenced by Gately et al (U.S. Patent No. 5,780,597).

Trinchieri et al teach an antibody which reacts with the human cytokine NKSF heterodimer (which appears to have the same sequence as IL-12), but is specific for the 35 kD subunit which has the same sequence as the sequence of the IL-12 35kD subunit (especially claims 1, 3, 4, 5, and 7 and Figures 1 and 2). It is an inherent property of antibodies that they are monoclonal or polyclonal. It is an inherent property of said anti-human IL-12 antibody that it would cross react with rhesus monkey IL-12 to some extent.

Gately et al teach the sequence of the IL-12 subunits (especially Figures 25 and 26).

11. Claims 8, 9, 23, 24 and 31-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The HB-12446, HB-12447, HB-12448 and HB-12449 of instant claims 6-13, 21-28 and 31-33 appear to be free of the prior art.

13. The reference crossed out in the Form 1449 filed 12/17/99 has not been considered because a copy was not provided.

14. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) filed 12/17/99 with the fee set forth in 37 CFR 1.17(p) on prompted the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne DiBrino whose telephone number is (703) 308-0061. The examiner can normally be reached Monday through Friday from 8:30 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

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February 25, 2000

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